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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,041	07/18/2007	Hajime Nakayama	1032879-000076	8976

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EXAMINER	
GUGLIOTTA, NICOLE T	

ART UNIT	PAPER NUMBER
1783	

NOTIFICATION DATE	DELIVERY MODE
04/19/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/594,041	NAKAYAMA ET AL.	
	Examiner	Art Unit	
	NICOLE T. GUGLIOTTA	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 20* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 12 objected to because of the following informalities:

Applicant's amended claim 12 states the following:

"A polarizing plate an optical compensatory film of claim 11, and a polarizer."

The sentence does not make sense. There is no limitation of a polarizing plate in claim 11, and thus it appears critical words and/or punctuation are missing between "a polarizing plate" and "an optical compensatory".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

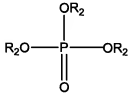
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 - 10, 13 & 19 - 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Takatoshi (JP 2001-163995 A), in view of Yano et al. (US 2003/0210370 A1).

Takatoshi teaches a liquid crystal device comprising a cellulose acylate protective film for a polarizing plate. The protective film has a thickness of 20 – 200 micrometers (paragraph [0081]) **(claim 10)** and comprises cellulose ester compounds,

such as cellulose acetate butylate and cellulose acetate proprionate, with a degree of substitution in the range of 2.6 - 3.0 (paragraph [0031]) **(claims 3 – 5 & 19)**, along with phosphoric ester compounds present in the amount of 0.5 – 30 mass % (paragraph [0044]) with the following chemical structure (paragraph [0015]) (Takatoshi's "general formula 3") **(claims 6 - 8, Applicant's Formula (1) of claim 8)**:



Takatoshi fails to teach a thermoplastic norbornene resin (Applicant's claim 2).

Yano et al. teach the use of a thermoplastic norbornene resin in combination with cellulose ester polymer (paragraphs [0039] & [0043]) to form a film for a liquid crystal display device. Thermoplastic norbornene resin is excellent in heat resistance, wet endurance and weather ability. Norbornene resin in a transparent film provides a film with stable retardation values (paragraphs [0017] & [0045]) **(claim 2)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add thermoplastic norbornene resin to the cellulose protective film taught by Takatoshi because it provides excellent heat resistance, wet endurance and weather ability to the cellulose protective film, based on the teachings of Yano et al.

Considering the retardation values of Applicant's **claims 1, 9, 13 & 20**, the combination of Takotoshi and Yano et al. teach a protective cellulose ester film made by substantially the same process and comprising the same components (i.e. cellulose

acetate butylate or cellulose acetate proprionate with a degree of substitution in the range of 2.5 to 3.0, a retardation reducing agent such as phoshoric ester compounds present in the amount of 1 – 30 mass %, and thermoplastic norbornene resins) as Applicant's claimed invention. Therefore, it would be reasonable to believe protective film taught by the combination of Takotoshi and Yano et al. would have the same retardation values for Re (λ) and Rth (λ) as claimed by Applicant in claims 1, 9, 13 & 20.

MPEP 2112 [R-3] states:

> The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).

It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a prima facie case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada,* 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily posses the characteristics of the claimed products. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

3. Claims 11 - 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatoshi , Yano et al. and Toko et al., as applied to claim 14 above, and further in view of Yoji (JP 2003-057415A).

The references discussed above are silent in regard to the presence of an optical compensatory film having Re (630) from 0 to 200 nm and the absolute value of Rth (630) from 0 to 400 nm in a liquid crystal display apparatus.

Yoji teach an optical anisotropic layer (Applicant's "optical compensatory film") for an LCD, wherein the layer has an Re in the range of 0 - 200 nm and an Rth in the range of 70 – 400 nm so that the optical anisotropic layer may play an important role optically (paragraph [0094]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an optical compensatory (anisotropic) film with retardation values in the range of Re = 0 – 200 nm and Rth = 70 - 400 within the liquid crystal display taught by Takatoshi and Yano et al. in order to contribute to the optical properties of the LCD, based on the teachings of Yoji.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takatoshi and Yano et al., as applied to claims 1 & 13 above, and further in view of Toko et al. (U.S. Patent No. 5,453,862).

Takatoshi teaches using the cellulose ester film of the invention as a protective film for a polarizing plate (film) within a liquid crystal display (LCD) apparatus using TN (nematic) liquid crystal cells (paragraph [0080]).

However, Takatoshi is silent in regard to the characteristics of the liquid crystal layer of the LCD apparatus.

Toko teaches nematic liquid crystal cells used for a liquid crystal display apparatus, wherein a protective layer 13 is applied to the surface of substrates 1 and 2, facing the liquid crystal layer. The refractivity anisotropy (Δn) of the liquid crystal layer between substrates 1 and 2 is 0.095 and the distance of between the polarizing plates (thickness of the liquid crystal layer, d) is 5.5 microns. The product of the thickness d (μm) and the refractivity anisotropy (Δn) is 0.5225 ($\Delta n \cdot d$) (Col. 5, Lines 2 - 8) **(claim 14)**. The resulting test cell did not show the degradation of contrast at any particular angle of field view commonly seen in conventional liquid crystal cells (Col. 5, Lines 9 – 18).

It would have been obvious to one of ordinary skill in the art at the time of the invention for the liquid crystal layer within a liquid crystal display, such as the in the LCD taught by Takatoshi and Yano et al., to have product of the refractivity anisotropy, Δn, and the distance, d, (width) of the layer ($\Delta n \cdot d$) around 0.5225 because it reduces degradation of contrast of any field view angle, based on the teachings of Toko et al.

5. Claims 15 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatoshi , Yano et al. and Toko et al., as applied to claim 14 above, and further in view of Kelly et al. (US 2003/0164920 A1) and Yoji (JP 2003-057415A).

The references discussed above are silent in regard to the presence of an optical compensatory film in a liquid crystal display apparatus.

Kelly et al. teach a liquid crystal display comprising a first and a second optical anisotropic layer (Applicant's "second optical compensatory film" and "first optical

compensatory film", respectively). The first optical anisotropic layer taught by Kelly et al. (Applicant's "second optical compensatory film") has retardation values of Re in the range of 1- 500 nm (paragraph [0044]) and Rth in the range of 0 – 700 nm (paragraph [0044]), as well as a negative refractive index anisotropy (paragraph [0043]) (Applicant's "refractivity anisotropy"). Kelly et al. also teach a second optical anisotropic layer (corresponds to Applicant's "first optical compensatory film") with an Re value in the range of 10 – 1000 nm (paragraph [0042]) **(claims 15 & 17)**, and one discotic liquid-crystal compound (paragraph [0043] & [0045]) **(claim 16)**. A liquid crystal display (LCD) comprising optical anistropic layers such as these have sufficient visibility when then the viewing angle is changed and does not generate colorization (abstract, paragraph [0010] – [0014])

The Examiner notes the ranges for Re and Rth for the first and second optical anisotropic layers taught by Kelly et al. overlap with the ranges claimed by Applicant (claims 15 & 17). It is well established that the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness, *see In re Malagari*, 182 USPQ 549.

When Re = (nx – ny) x d and Rth = (nx - nz) x d (Kelly et al, paragraph [0044]), the Nz value of the first optical compensatory film (nx - nz)/(nx - ny) can be rewritten as Rth/Re. Considering Kelly et al. teach overlapping ranges for the Rth and Re values as claimed by Applicant, as discussed above, it would be reasonable to believe the Nz

value of the second optical anisotropy layer (Applicant's "first optical compensatory film") falls within the range of 0.2 to 0.8, where nx ≥ ny **(claim 17)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the optical anisotropic (compensatory) layers taught by Kelly et al. in the LCD taught by Takatoshi , Yano et al. and Toko et al. because such optical anisotropic layers have sufficient visibility when then the viewing angle is changed and does not generate colorization.

Kelly et al. is silent in regard to the slow axis direction of the liquid-crystal cell in a black display (claim 15).

Yogi teaches a liquid crystal display (LCD) comprising an optical anisotropy film such that the criteria for the (nx – nz)/(nx - ny) is Re in the direction of the lagging axis ("slow-axis") (parallel to the transmission axis) and Ry is in the direction vertical to the lagging axis (paragraph [0094]) **(claim 15)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention for the slow axis to be in the direction of the transmission axis, as taught by Yoji, in order to contribute to the optical properties of the LCD.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE T. GUGLIOTTA whose telephone number is (571)270-1552. The examiner can normally be reached on M - F 8:30 a.m. - 6 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

/NICOLE T GUGLIOTTA/
Examiner, Art Unit 1783